

A1 and 3. (amended) ~~The~~ process of claim 2 wherein the reactive hydroxyl species are generated by [reaction with] a metal activator.

7. (amended) A process of claim 1 [any one of claims 1 through 6] where the part to be plated is an organic plastic[, preferably acrylonitrile butadiene styrene, polyamide, epoxy, polycarbonate, polyetherimide, or blends thereof].

A2 8. (amended) A process of claim 1 [any one of claims 1 through 7] wherein the part to be plated is a printed circuit board or an EMI substrate.

9. (amended) A process of claim 1 [any one of claims 1 through claim 8] where the metal activator is present in a concentration of from 0.01 to 2.0 moles per liter of solution[, preferably in a concentration of from about 0.1 to 1 mole per liter of solution].

A3 12. A process of claim 1 [any one of claims 1 or 3 through 11] wherein the metal activator is oxidized electrochemically and the solution containing the oxidized metal substrate is exposed to the part, and the metal activator is then reduced.

13. (amended) The process of claim 1 [any of the preceding claims] wherein a plating catalyst [such as Pd/tin, Pd, or platinum] separate from the metal activator is not employed, and/or chromic acid or permanganate treatment of the part is not employed.

[Please add the following new claims.]

A4 14. The process of claim 1 where the part to be plated is composed of acrylonitrile butadiene styrene, polyamide, epoxy, polycarbonate, polyetherimide, or blends thereof.

15. The process of claim 2 wherein the part to be plated is an organic plastic.
16. The process of claim 2 wherein the part to be plated is a printed circuit board or an EMI substrate.
17. The process of claim 2 where the part to be plated is composed of acrylonitrile butadiene styrene, polyamide, epoxy, polycarbonate, polyetherimide, or blends thereof.
18. A process for metal deposition, the process comprising
providing an aqueous solution comprising a metal activator that comprises silver (II),
contacting a part to be plated with the aqueous solution of the metal activator for a time
sufficient for the metal activator to adsorb onto the part,
contacting the part with a reducing agent capable of reducing the metal activator to a
lower oxidation state, and metal plating the part by contact with a plating solution.
19. A process of claim 18 where the part to be plated is an organic plastic.
20. A process of claim 18 wherein the part to be plated is a printed circuit board or an EMI substrate.
21. A process of claim 18 where the part to be plated is composed of acrylonitrile butadiene styrene, polyamide, epoxy, polycarbonate, polyetherimide, or blends thereof.
22. A process of claim 18 wherein the metal activator is oxidized electrochemically and the solution containing the oxidized metal substrate is exposed to the part, and the metal activator is then reduced.

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23. A process for metal deposition, the process comprising providing an aqueous solution comprising a metal activator that comprises one or more of ruthenium, cerium, iron, manganese, rhodium or vanadium; contacting a part to be plated with the aqueous solution of the metal activator for a time sufficient for the metal activator to adsorb onto the part; and contacting the part with a reducing agent capable of reducing the metal activator to a lower oxidation state, and metal plating the part by contact with a plating solution.

24. A process of claim 23 where the part to be plated is an organic plastic.

25. A process of claim 23 wherein the part to be plated is a printed circuit board or an EMI substrate.

26. A process of claim 23 where the part to be plated is composed of acrylonitrile butadiene styrene, polyamide, epoxy, polycarbonate, polyetherimide, or blends thereof.

27. A process of claim 23 wherein the metal activator is oxidized electrochemically and the solution containing the oxidized metal substrate is exposed to the part, and the metal activator is then reduced.

28. A process for metal deposition, comprising:
oxidizing an aqueous solution comprising an metal activator,
contacting a part to be plated with the aqueous solution of the oxidized metal activator for a time sufficient for the metal activator to adsorb onto the part,
contacting the part with a reducing agent capable of reducing the metal activator to a lower oxidation state, and metal plating the part by contact with a plating solution.

29. The process of claim 28 wherein the metal activator comprises silver.

30. The process of claim 28 wherein the metal activator comprises cobalt.
31. The process of claim 28 wherein the metal activator comprises ruthenium, cerium, iron, manganese, nickel, rhodium or vanadium.
32. A process of claim 28 where the part to be plated is an organic plastic.
33. A process of claim 28 wherein the part to be plated is a printed circuit board or an EMI substrate.
34. The process of claim 28 where the part to be plated is composed of acrylonitrile butadiene styrene, polyamide, epoxy, polycarbonate, polyetherimide, or blends thereof.

REMARKS

As an initial matter, Applicants kindly request confirmation that claim to priority (British application) under 35 U.S.C. 119 is acknowledged and that the certified copy of the priority document has been received. The Rule 63 Declaration includes that priority claim, and the certified copy has been filed with the USPTO.

Claims 1, 2, 3, 7-9, 12 and 13 have been amended, and claims 14-34 have been added. No new matter has been added by virtue of the amendments. For instance, with respect to the amendment of claims 1 and 2, it is clear from the specification that the metal activator is not a colloid, including where the metal activator is specifically distinguished from prior colloidal catalysts such as Pd/tin colloids in original claim 13. Support for new claims 14-34 appears e.g. in the original claims of the application. Support for new claims 18-21 also appears on page 1, last paragraph of the application.